

**REMARKS/ARGUMENTS**

This Amendment is responsive to the Office Action mailed on February 4, 2003. A petition for a 3-month extension of time is attached so that the due date for responding to the Office Action includes August 4, 2003. Entry of the Amendment is requested.

Prior to this Amendment, claims 1-4 were pending and claims 5-6 were canceled. In this Amendment, claims 1 and 4 are amended, no claims are canceled, and new claims 7 and 8 are added so that claims 1-4 and 7-8 are pending and subject to examination on the merits.

In the Office Action, the Examiner makes a number of objections and rejections. The objections and rejections will be addressed in the order presented by the Examiner in the Office Action.

**Drawing Objections**

At page 2, section 4 of the Office Action, the Examiner objects to the drawings and states that reference number "11" is not mentioned in the description. In response, reference number "11" is mentioned at page 2, line 18 of the application and designates a "leadframe".

At page 2, section 5 of the Office Action, the Examiner objects to the drawings and states that reference number "21" is not mentioned in the description. In response, "21" is a "top surface" and is mentioned at page 2, line 18 of the specification.

At page 3, paragraph 6 of the Office Action, the Examiner states that new formal drawings are needed. In response, new formal drawings are being submitted herewith.

**Title**

At page 3, paragraph 7 of the Office Action, the Examiner states that the title is not descriptive. In response, a new title is provided in this Amendment.

### **Obviousness rejections**

At page 4 of the Office Action, claim 1 is rejected as obvious over Yea et al. (U.S. Patent No. 6,373,078), Huang et al. (U.S. Patent No. 6,344,687), and Lam et al. (U.S. Publication No. 2002/0071253).

None of the references cited in the Office Action mention a semiconductor device including, *inter alia*, “a body being around at least a portion of the first die and the second die, such that at least a drain region of the second die is exposed by the body.” An example of this feature is shown in FIG. 2 of the present application.

As indicated at the bottom of page 4 of the Office Action, the Examiner appears to cite FIGS. 1G, 6F, and 8F of Lam et al. as teaching this feature as the Examiner cites Lam et al. for its alleged teaching of a “body”. No other references are cited as teaching or suggesting this feature.

Lam et al. does not teach or suggest this and other features. For example, even FIGS. 16, 6F, and 8F do not teach or suggest “a body being around at least a portion of the first die and the second die, such that at least a drain region of the second die is exposed by the body.” As shown in FIG. 1G, a plastic molding 454 completely covers the illustrated die so that no surface of the die is exposed by the molding 454. In FIG. 6F, a heat sink 126 is exposed through a plastic capsule 134. FIG. 6F does not show a die exposed through the plastic capsule 134. Likewise, FIG. 8F shows a heat sink 144A exposed through a plastic capsule 156, but no die surface that is exposed by the plastic capsule 156. Since none of the cited portions of Lam et al. disclose “a body being around at least a portion of the first die and the second die, such that at least a drain region of the second die is exposed by the body”, Applicant can only assume that Lam et al., and the other references specifically cited by the Examiner, fail to teach or suggest this feature. Accordingly, the claims should be allowable for this reason alone.

Also noted in independent claim 1, the first die is “electrically coupled” to first source and gate attach areas of the leadframe, while the drain region of the first die “faces away” from the leadframe as shown in FIGS. 1 and 2. The second die is attached in a similar manner on the opposite side of the leadframe as the first die, and as shown in FIGS. 1 and 2, both the

first die and the second die are in a stacked relationship. As noted by FIGS. 1 and 2, both sides of each of the first and second dies form inputs and/or outputs for the dies. The cited references fail to teach or suggest these and other features of independent claim 1.

Of the references cited in the obviousness rejection, Huang et al. appears to be the only one that appears to show stacked chips. Unlike embodiments of the invention, however, the die pad 232 in Huang et al. does not appear to provide an electrically conducting path so that only one side of each of the stacked chips provides inputs and outputs. As shown in FIGS. 7-8, for example, input and output paths to the chips 220, 240 are provided via wires to the outer surfaces of the chips 220, 240 and die pad 232 appears to be electrically isolated from the input and outputs of the illustrated package. Also, as explained at column 3, line 53, only one side of the chip shown in FIG. 5 is referred to as an "active surface 222" so that only one side of the die is active and has inputs and outputs.

At page 5, paragraph 10 of the Office Action, claims 2 and 3 are rejected as obvious over Yea et al., Huang et al., Lam et al., and Kinsman (U.S. Patent No. 5,789,803). At page 6, paragraph 11 of the Office Action, claim 4 is rejected as obvious over Yea et al., Huang et al., Lam et al., and Standing et al. (U.S. Publication No. 2001/0048116).

Applicants traverse these additional obviousness rejections, and respectfully submit that Kinsman and Standing et al. fail to remedy the deficiency of the improper combination of Yea et al., Huang et al., and Lam et al.

Appl. No. 09/805,597  
Amdt. dated August 1, 2003  
Reply to Office Action of February 4, 2003

PATENT

**CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Patrick R. Jewik', is written over a large, loopy oval shape.

Patrick R. Jewik  
Reg. No. 40,456

TOWNSEND and TOWNSEND and CREW LLP  
Two Embarcadero Center, 8<sup>th</sup> Floor  
San Francisco, California 94111-3834  
Tel: 415-576-0200  
Fax: 415-576-0300  
Attachments  
PRJ:prj  
60005773 v1